



## Final Product/Process Change Notification

Document #:FPCN21520XF

Issue Date:01 Nov 2022

<b>Title of Change:</b>	Qualification of onsemi Aizu, Japan as Wafer Fab for processing ONC25 Technology	
<b>Proposed First Ship date:</b>	06 Feb 2023 or earlier if approved by customer	
<b>Contact Information:</b>	Contact your local onsemi Sales Office or <a href="mailto:Jaroslav.Supina@onsemi.com">Jaroslav.Supina@onsemi.com</a>	
<b>PCN Samples Contact:</b>	Contact your local onsemi Sales Office. Sample requests are to be submitted no later than 30 days from the date of first notification, Initial PCN or Final PCN, for this change. Samples delivery timing will be subject to request date, sample quantity and special customer packing/label requirements.	
<b>Additional Reliability Data:</b>	Contact your local onsemi Sales Office or <a href="mailto:Vladislav.Hrachovec@onsemi.com">Vladislav.Hrachovec@onsemi.com</a>	
<b>Type of Notification:</b>	This is a Final Product/Process Change Notification (FPCN) sent to customers. FPCNs are issued 90 days prior to implementation of the change. onsemi will consider this change accepted, unless an inquiry is made in writing within 30 days of delivery of this notice. To do so, contact <a href="mailto:PCN.Support@onsemi.com">PCN.Support@onsemi.com</a>	
<b>Marking of Parts/ Traceability of Change:</b>	Customs source information will be updated on product label, and product will be identified by encoded date code.	
<b>Change Category:</b>	Wafer Fab Change	
<b>Change Sub-Category(s):</b>	Manufacturing Site Addition	
<b>Sites Affected:</b>		
<b>onsemi Sites</b>	<b>External Foundry/Subcon Sites</b>	
onsemi Aizu, Japan	None	
<b>Description and Purpose:</b>		
<p>The onsemi Aizu, Wafer Fab located at Aizuwakamatsu, Japan has been qualified to process the ONC25 CMOS process. The exact same process technology has been transferred as is currently running in the onsemi Wafer fab located at Gresham, Oregon, US. Tool sets are different but the exact same masking layers and steps are being used in the Aizu Fab. This change is implemented to mitigate potential supply disruption; customers are encouraged to urgently review this change in order to minimize any potential impact to their supply chain. Upon implementation of this change, any of the qualified suppliers will be used to support demand.</p>		
	<b>From</b>	<b>To</b>
Fab Locations	onsemi Gresham, US	onsemi Aizu, Japan onsemi Gresham, US
There is no product marking change as a result of this change.		

## Reliability Data Summary:

**QV1 DEVICE NAME: NCP114AMXyyyTCG**

**RMS: S49131/S49133/S49133**

**PACKAGE: UDFN**

Test	Specification	Condition	Interval	Results
HTOL	JESD22-A108	Ta=125°C, bias at 1.2X Nominal (not to exceed Max rated)	1008 hrs	0/240
ESD HBM	JESD22-A114	c = 0, Test @ R & H	2kV	0/3
ESD CDM	JESD22-A115	c = 0, Test @ R	1kV	0/3
LU	JESD78	Test @ EP; Test & Stress @ R & H	LU+>100mA LU->100mA	0/6
ED	ON Data Sheet	Cpk > 1.67 Test @ R, H, C	Cpk>1.67	pass
HTSL	JESD22-A103	Ta= 150°C	1008 hrs	0/240
PC	J-STD-020 JESD-A113	MSL 1 @ 260 °C	Results	0/all
SAT (PC)	as outlined in 12MSB17722C	Compare for Delamination before and after PC	Results	0/66
PC-TC	JESD22-A104	Ta= -65°C to +150°C	500 cyc	0/240
SAT (TC500)	as outlined in 12MSB17722C	Compare for Delamination before and after PC	Results	0/66
WBP (TC500)	as outlined in 12MSB17722C	Custom Destructive Physical Analysis - Wire Pull	Results	passed
BS (TC500)	as outlined in 12MSB17722C	Custom Destructive Physical Analysis - Bond Shear	Results	passed
DPA (TC500)	as outlined in 12MSB17722C	Custom Destructive Physical Analysis Following PC + TC	Results	passed
PC-UHAST	JESD22-A118	Ta = 130°C, RH=85%, PSIG = 18.8, unbiased	96 hrs	0/240
PC-HAST	JESD22-A110	130°C, 85% RH, 18.8psig, bias	96 hrs	0/240
BS	AEC-Q100-001	per assembly spec	Results	0/120
BPS	M883 Method 2011	per assembly spec	Results	0/120

**QV2 DEVICE NAME: NCP161AFCS180T2G**

**RMS: S34344**

**PACKAGE: FCDCA BUMP PB FREE**

Test	Specification	Condition	Interval	Results
HTOL	JESD22-A108	Ta=125°C, bias at 1.2X Nominal (not to exceed Max rated)	1008 hrs	0/240
ESD HBM	JESD22-A114	c = 0, Test @ R & H	2kV	0/3
ESD CDM	JESD22-A115	c = 0, Test @ R	1kV	0/3
LU	JESD78	Test @ EP; Test & Stress @ R & H	LU+>100mA LU->100mA	0/6
ED	ON Data Sheet	Cpk > 1.67 Test @ R, H, C	Cpk>1.67	pass
HTSL	JESD22-A103	Ta= 150°C	1008 hrs	0/240
PC	J-STD-020 JESD-A113	MSL 1 @ 260 °C	Results	0/all
PC-TC	JESD22-A104	Ta= -65°C to +150°C	1000 cyc	0/240
PC-UHAST	JESD22-A118	Ta = 130°C, RH=85%, PSIG = 18.8, unbiased	96 hrs	0/240
PC-HAST	JESD22-A110	130°C, 85% RH, 18.8psig, bias	96 hrs	0/240
BS	AEC-Q100-001	per assembly spec	Results	0/120
BPS	M883 Method 2011	per assembly spec	Results	0/120

**QV2 DEVICE NAME: NCP161AFCT180T2G**

**RMS: S34346, S55661, S56442**

**PACKAGE: WLCSP4 SNGL HPBF, WLCSP-4**

Test	Specification	Condition	Interval	Results
HTOL	JESD22-A108	Ta=125°C, bias at 1.2X Nominal (not to exceed Max rated)	2016 hrs	0/240
ELFR	JESD22-A108	Ta = 125°C°, bias at 1.2X Nominal (not to exceed Max rated)	48h	0/2400
ESD HBM	JESD22-A114	c = 0, Test @ R & H	2kV	0/3
ESD CDM	JESD22-A115	c = 0, Test @ R	1kV	0/3
LU	JESD78	Test @ EP; Test & Stress @ R & H	LU+>100mA LU->100mA	0/6
ED	ON Data Sheet	Cpk > 1.67 Test @ R, H, C	Cpk>1.67	pass
HTSL	JESD22-A103	Ta= 150°C	1008 hrs	0/240
PC	J-STD-020 JESD-A113	MSL 1 @ 260 °C	Results	0/all
PC-TC	JESD22-A104	Ta= -65°C to +150°C	1000 cyc	0/240
PC-UHAST	JESD22-A118	Ta = 130°C, RH=85%, PSIG = 18.8, unbiased	96 hrs	0/240
PC-HAST	JESD22-A110	130°C, 85% RH, 18.8psig, bias	96 hrs	0/240
BS	AEC-Q100-001	per assembly spec	Results	0/120
BPS	M883 Method 2011	per assembly spec	Results	0/120

**QV2 DEVICE NAME: NCP161AMX180TBG**

**RMS: S34343,**

**PACKAGE: XDFN4 LDLSS 1\*1\*.4MM PBF**

Test	Specification	Condition	Interval	Results
HTOL	JESD22-A108	Ta=125°C, bias at 1.2X Nominal (not to exceed Max rated)	1008 hrs	0/240
ESD HBM	JESD22-A114	c = 0, Test @ R & H	2kV	0/3
ESD CDM	JESD22-A115	c = 0, Test @ R	1kV	0/3
LU	JESD78	Test @ EP; Test & Stress @ R & H	LU+>100mA LU->100mA	0/6
ED	ON Data Sheet	Cpk > 1.67 Test @ R, H, C	Cpk>1.67	pass
HTSL	JESD22-A103	Ta= 150°C	1008 hrs	0/240
PC	J-STD-020 JESD-A113	MSL 1 @ 260 °C	Results	0/all
SAT (PC)	as outlined in 12MSB17722C	Compare for Delamination before and after PC	Results	0/66
PC-TC	JESD22-A104	Ta= -65°C to +150°C	1000 cyc	0/240
SAT (TC500)	as outlined in 12MSB17722C	Compare for Delamination before and after PC	Results	0/66
WBP (TC500)	as outlined in 12MSB17722C	Custom Destructive Physical Analysis - Wire Pull	Results	passed
BS (TC500)	as outlined in 12MSB17722C	Custom Destructive Physical Analysis - Bond Shear	Results	passed
DPA (TC500)	as outlined in 12MSB17722C	Custom Destructive Physical Analysis Following PC + TC	Results	passed
PC-UHAST	JESD22-A118	Ta = 130°C, RH=85%, PSIG = 18.8, unbiased	96 hrs	0/240
PC-HAST	JESD22-A110	130°C, 85% RH, 18.8psig, bias	96 hrs	0/240
BS	AEC-Q100-001	per assembly spec	Results	0/120
BPS	M883 Method 2011	per assembly spec	Results	0/120

**QV3 DEVICE NAME: NCV59748MLADJTBG**

**RMS: S46066,**

**PACKAGE: DFNW10 CU SNGL HPBF WFS**

Test	Specification	Condition	Interval	Results
HTOL	JESD22-A108	Ta=125°C, bias at 1.2X Nominal (not to exceed Max rated)	2016 hrs	0/80
ESD HBM	JESD22-A114	c = 0, Test @ R & H	2kV	0/3
ESD CDM	JESD22-A115	c = 0, Test @ R	1kV	0/3
LU	JESD78	Test @ EP; Test & Stress @ R & H	LU+>100mA LU->100mA	0/6
ED	ON Data Sheet	Cpk > 1.67 Test @ R, H, C	Cpk>1.67	pass

**QV3 DEVICE NAME: NCV59748MNADJTBG**

**RMS: S46068,**

**PACKAGE: DFN10 2AU SNGL HPBF**

Test	Specification	Condition	Interval	Results
HTOL	JESD22-A108	Ta=125°C, bias at 1.2X Nominal (not to exceed Max rated)	2016 hrs	0/80
ED	ON Data Sheet	Cpk > 1.67 Test @ R, H, C	Cpk>1.67	pass

**QV3 DEVICE NAME: NCV59749MNADJTBG**

**RMS: S46064,**

**PACKAGE: QFN20 5\*5 AU SNGL PBF**

Test	Specification	Condition	Interval	Results
HTOL	JESD22-A108	Ta=125°C, bias at 1.2X Nominal (not to exceed Max rated)	2016 hrs	0/80
ED	ON Data Sheet	Cpk > 1.67 Test @ R, H, C	Cpk>1.67	pass

## Electrical Characteristics Summary:

Electrical characteristics are not impacted. All Data Sheet specifications remain the same.

## List of Affected Parts:

**Note:** Only the standard (off the shelf) part numbers are listed in the parts list. Any custom parts affected by this PCN are shown in the customer specific PCN addendum in the PCN email notification, or on the [PCN Customized Portal](#).

Part Number	Qualification Vehicle
NCP103BMX330TCG	NCP114AMX120TCG, NCP114AMX180TCG, NCP114AMX280TCG
NCP114AMX360TCG	NCP114AMX120TCG, NCP114AMX180TCG, NCP114AMX280TCG
NCP160AFCS180T2G	NCP161AMX180TBG, NCP161AFCS180T2G, NCP161AFCT180T2G
NCP160AFCTC180T2G	NCP161AMX180TBG, NCP161AFCS180T2G, NCP161AFCT180T2G



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NCP160AMX180TBG	NCP161AMX180TBG, NCP161AFCS180T2G, NCP161AFCT180T2G
NCP160AMX1825TBG	NCP161AMX180TBG, NCP161AFCS180T2G, NCP161AFCT180T2G
NCP160AMX300TBG	NCP161AMX180TBG, NCP161AFCS180T2G, NCP161AFCT180T2G
NCP160AMX500TBG	NCP161AMX180TBG, NCP161AFCS180T2G, NCP161AFCT180T2G
SCY99226AMX330TCG	NCV59748MLADJTBG,NCV59748MNADJTBG,NCV59749MNADJTBG
SCY99226AMX120TCG	NCV59748MLADJTBG,NCV59748MNADJTBG,NCV59749MNADJTBG
SCY99222AMX120TCG	NCV59748MLADJTBG,NCV59748MNADJTBG,NCV59749MNADJTBG
SCY99202AMX330TBG	NCP161AMX180TBG, NCP161AFCS180T2G, NCP161AFCT180T2G
SCY99202AMX280TBG	NCP161AMX180TBG, NCP161AFCS180T2G, NCP161AFCT180T2G
SCY99202AMX180TBG	NCP161AMX180TBG, NCP161AFCS180T2G, NCP161AFCT180T2G
NCP720BMT120TBG	NCV59748MLADJTBG,NCV59748MNADJTBG,NCV59749MNADJTBG
NCP161BMX330TBG	NCP161AMX180TBG, NCP161AFCS180T2G, NCP161AFCT180T2G
NCP161BFCT180T2G	NCP161AMX180TBG, NCP161AFCS180T2G, NCP161AFCT180T2G
NCP161BFCS330T2G	NCP161AMX180TBG, NCP161AFCS180T2G, NCP161AFCT180T2G
NCP161AMX300TBG	NCP161AMX180TBG, NCP161AFCS180T2G, NCP161AFCT180T2G
NCP161AMX180TBG	NCP161AMX180TBG, NCP161AFCS180T2G, NCP161AFCT180T2G
NCP161AFCT300T2G	NCP161AMX180TBG, NCP161AFCS180T2G, NCP161AFCT180T2G
NCP161AFCT180T2G	NCP161AMX180TBG, NCP161AFCS180T2G, NCP161AFCT180T2G
NCP160BFCT210T2G	NCP161AMX180TBG, NCP161AFCS180T2G, NCP161AFCT180T2G